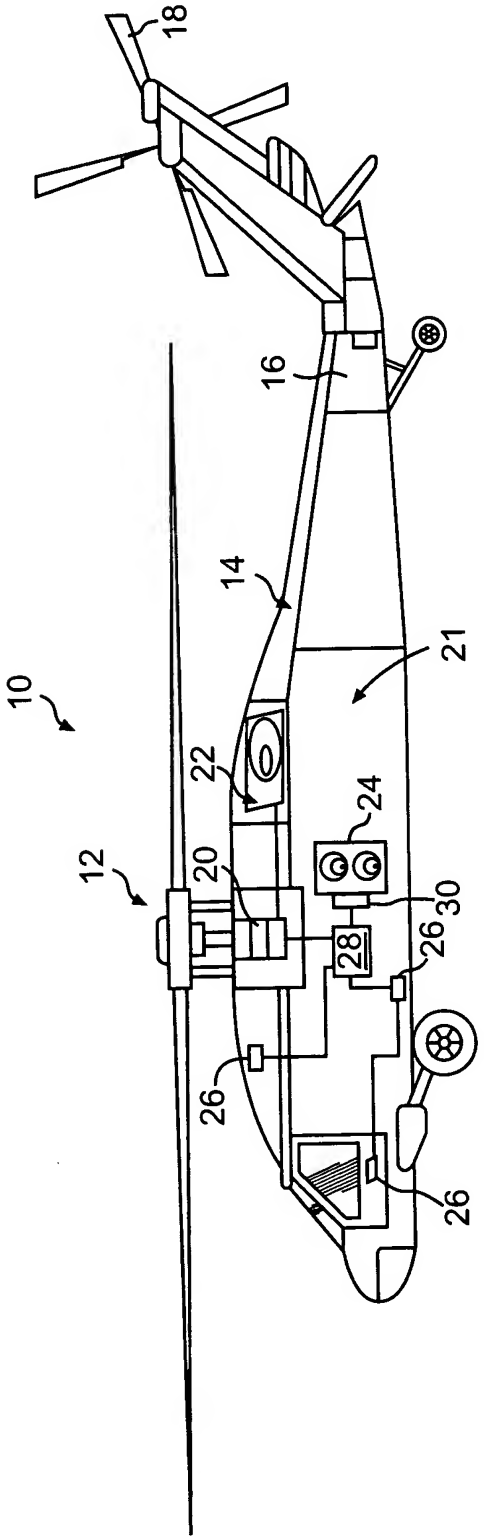


FIG. 1

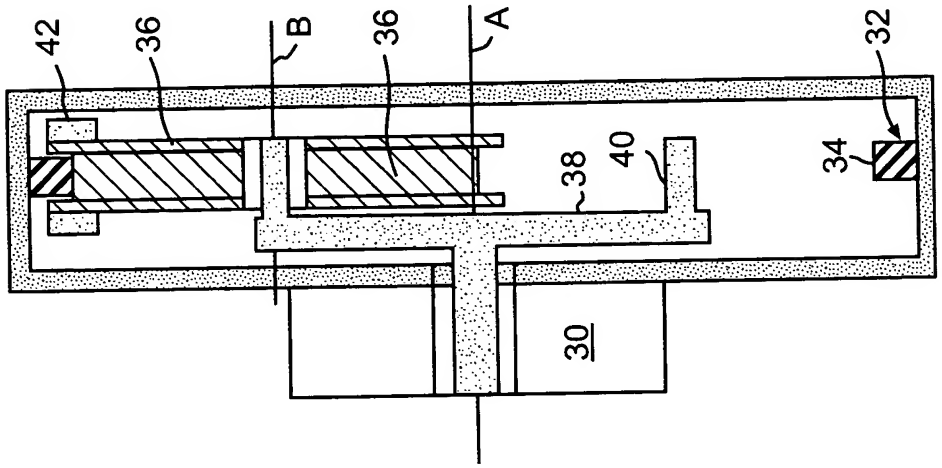


FIG. 2B

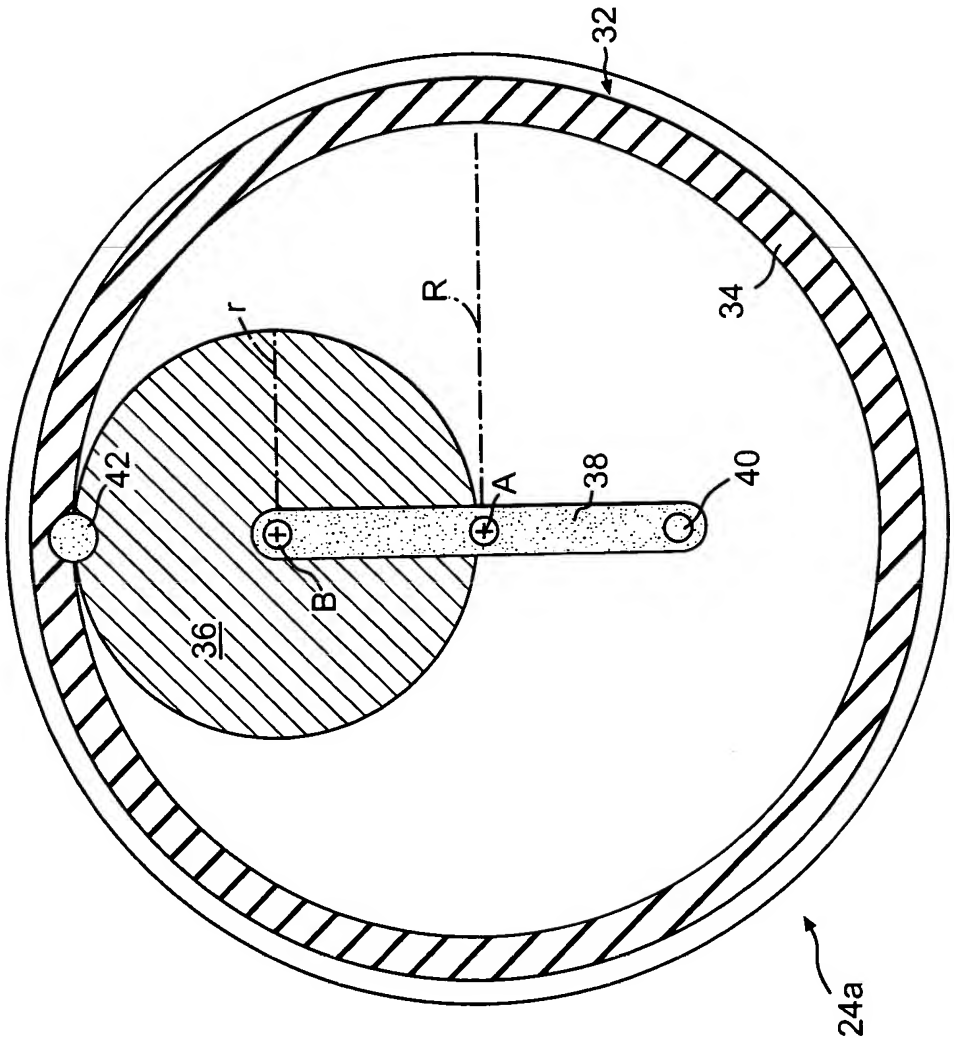


FIG. 2A

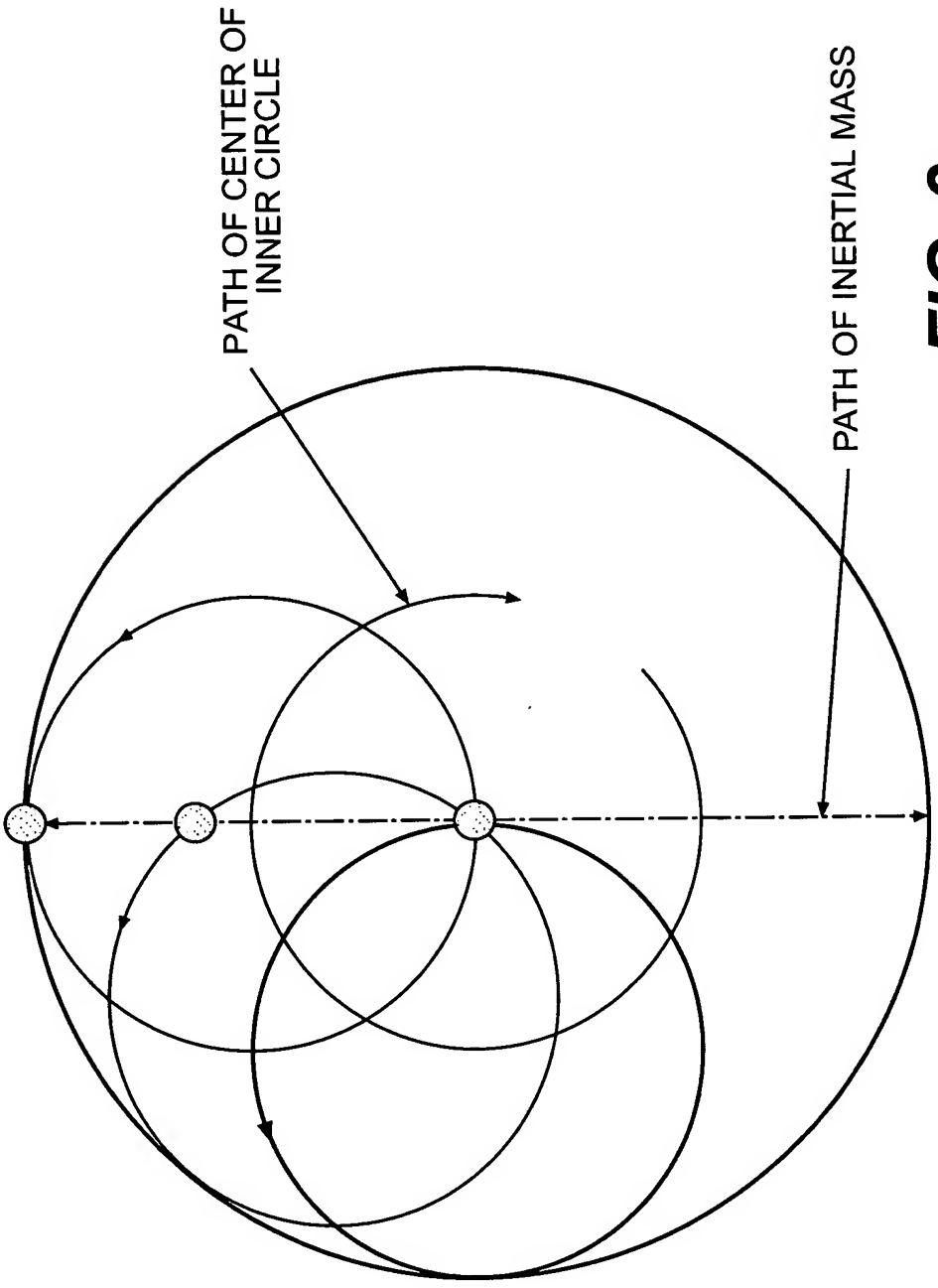


FIG. 3

IMPROVED HARMONIC FORCE GENERATOR
EQUATIONS OF MOTION

OUTER CIRCLE WITH CENTER a AND RADIUS R
INNER CIRCLE WITH CENTER o AND RADIUS r

$R = 2r$

CIRCUMFERENCE OF INNER CIRCLE:
$c = 2\pi r$

CIRCUMFERENCE OF OUTER CIRCLE:
$C = 2\pi R = 2c$

INNER CIRCLE ROLLS AROUND INSIDE THE OUTER CIRCLE WITH ANGULAR VELOCITY Ω

AS INNER CIRCLE COMPLETES ONE ORBIT, IT SIMULTANEOUSLY COMPLETES ONE REVOLUTION ABOUT ITS CENTER.
THEREFORE THE ANGULAR VELOCITITES OF RADII ao AND op ARE IDENTICAL.

POSTION OF POINT p ALONG Y AXIS:
$Yo = r \sin\theta = r \sin \Omega t$
$Yp = 2r \sin \Omega t$

VELOCITY OF POINT p:
$Yp\,(dot) = 2r\Omega \cos \Omega t$

ACCELERATION OF POINT p:
$Yp\,(ddot) = -2r\Omega^2 \sin \Omega t$

INERTIAL FORCE GENERATED BY a MASS AT p:
$F = ma$
$F = mR\Omega^2 \sin \Omega t$

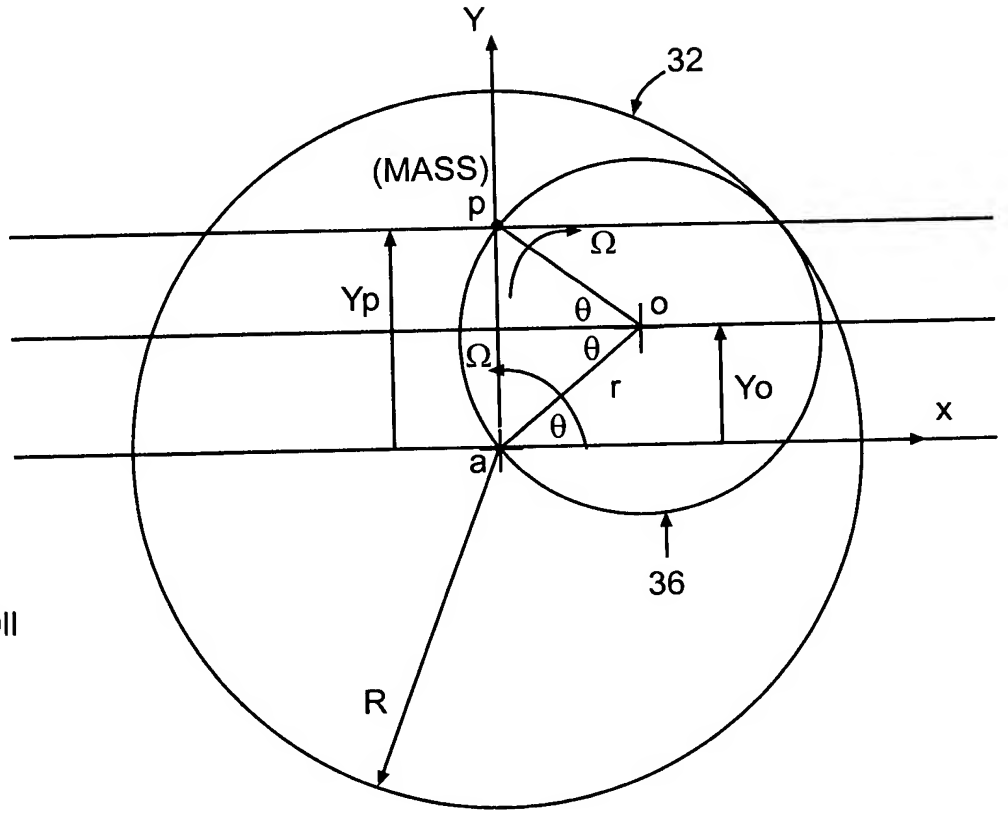


FIG. 4

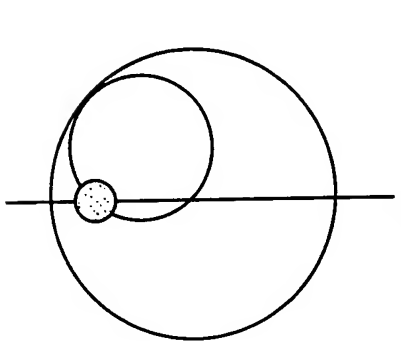


FIG. 5A

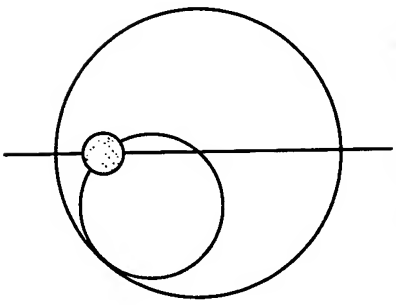


FIG. 5B

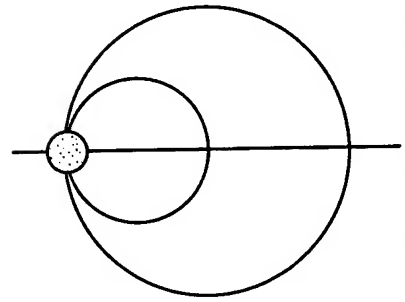


FIG. 5C

FIG. 5D

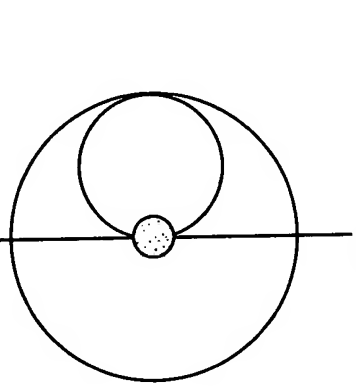


FIG. 5E

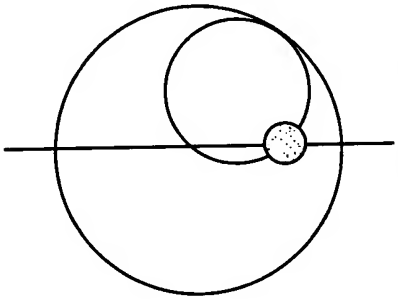


FIG. 5F

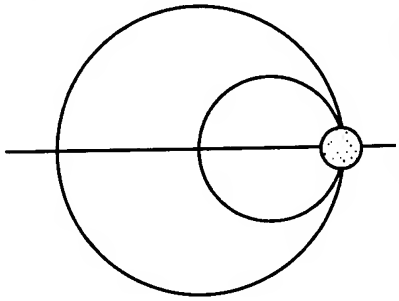


FIG. 5G

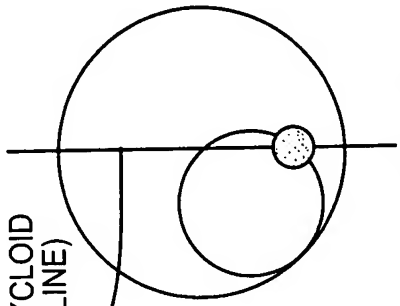


FIG. 5H

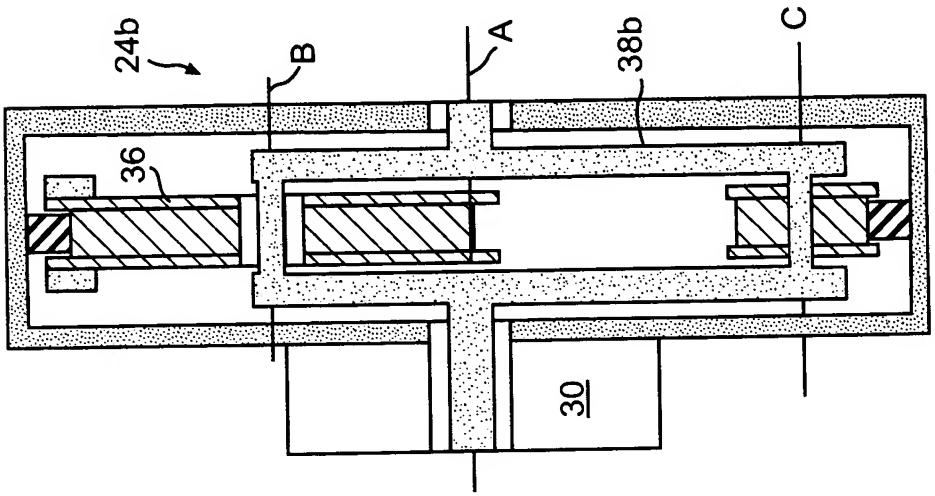


FIG. 6B

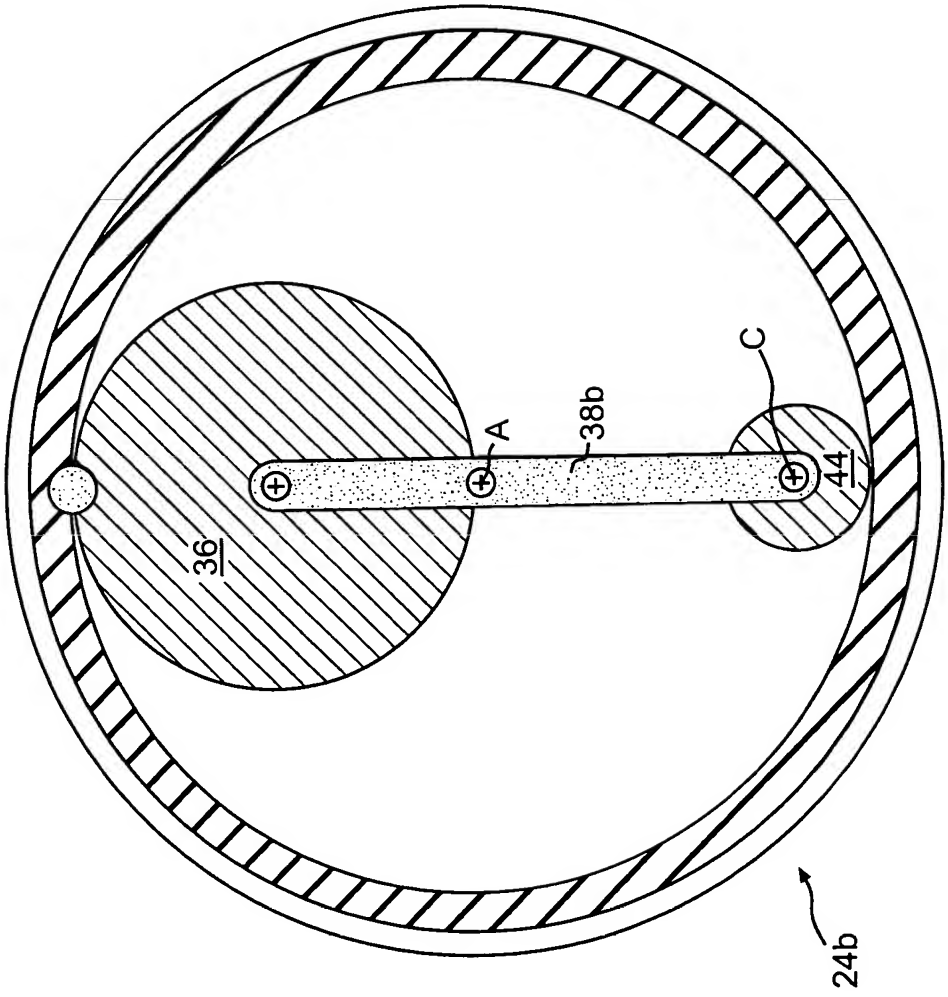


FIG. 6A

FIG. 7

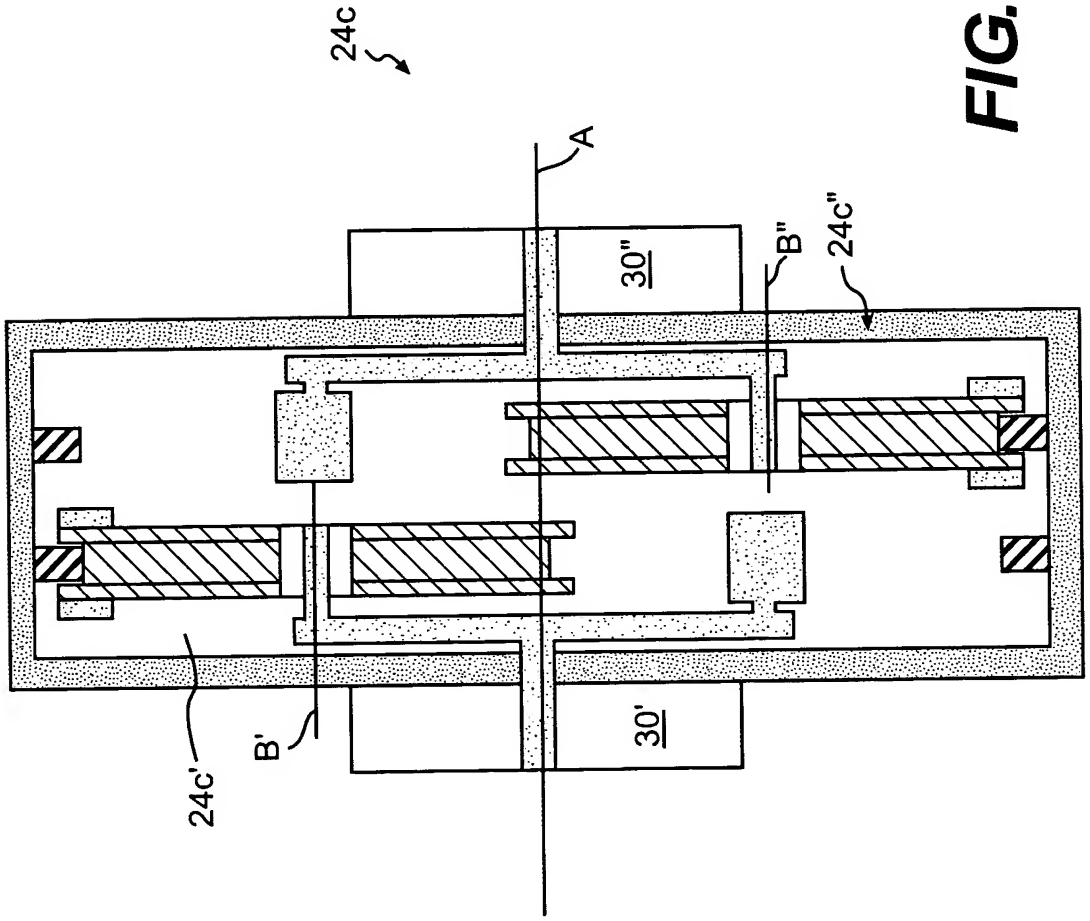
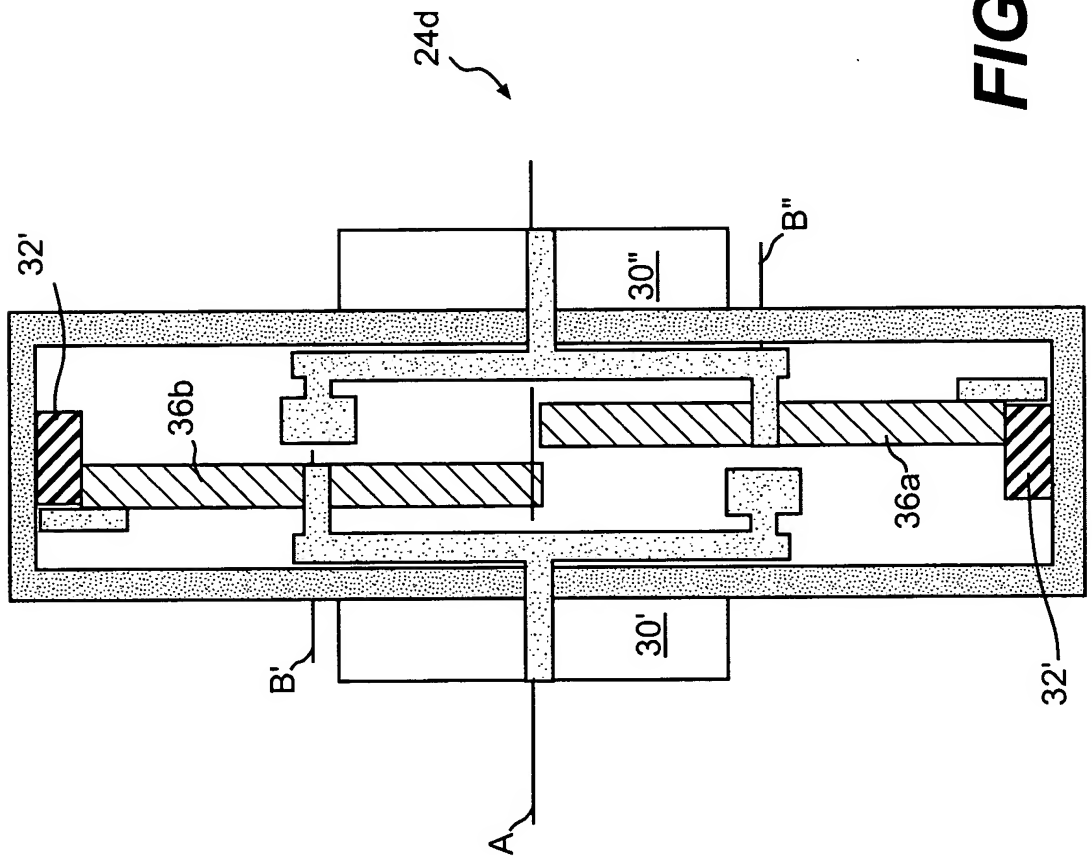


FIG. 8



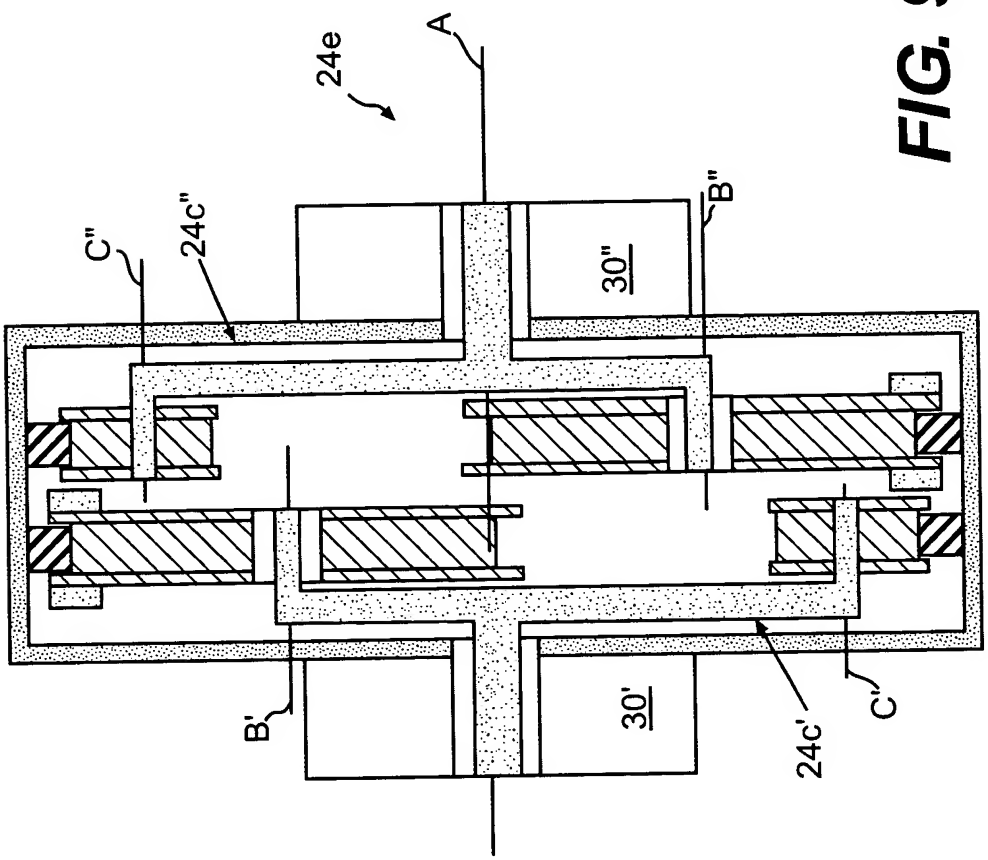


FIG. 9

FIG. 10

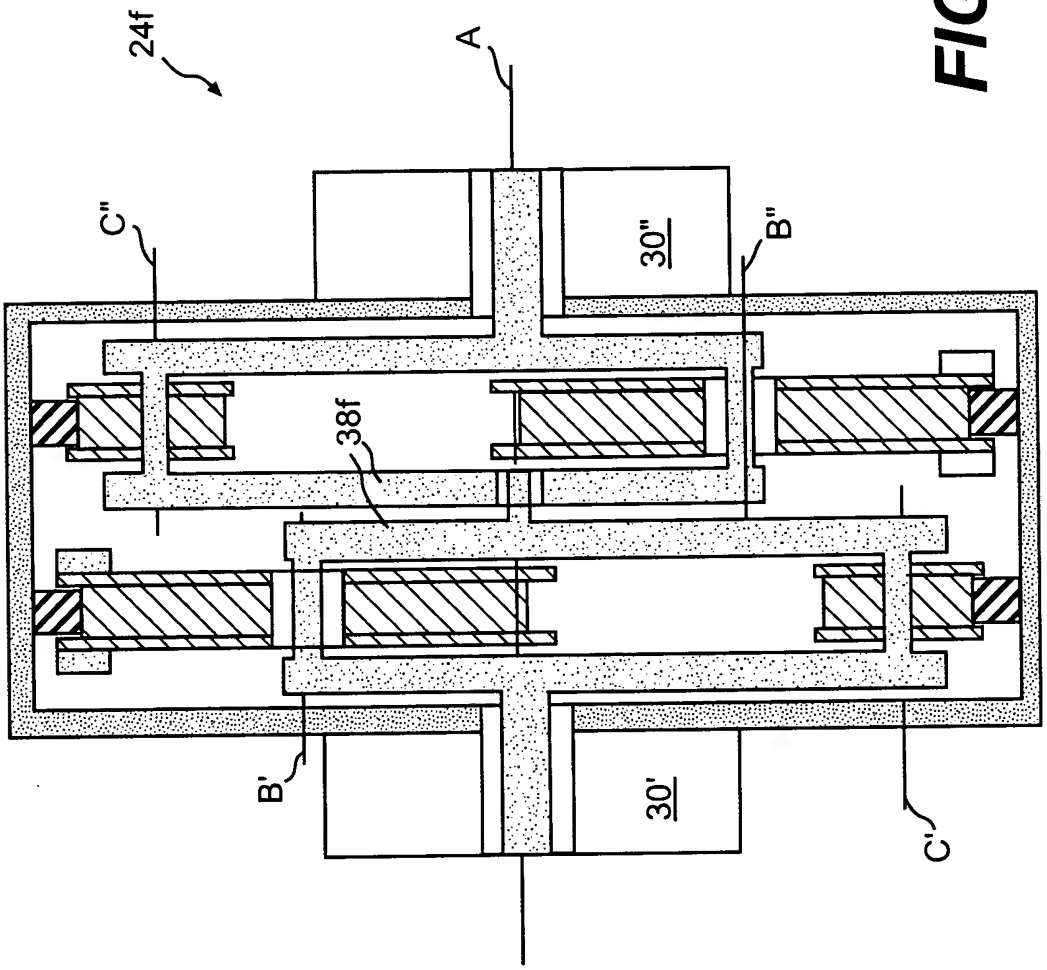


FIG. 11

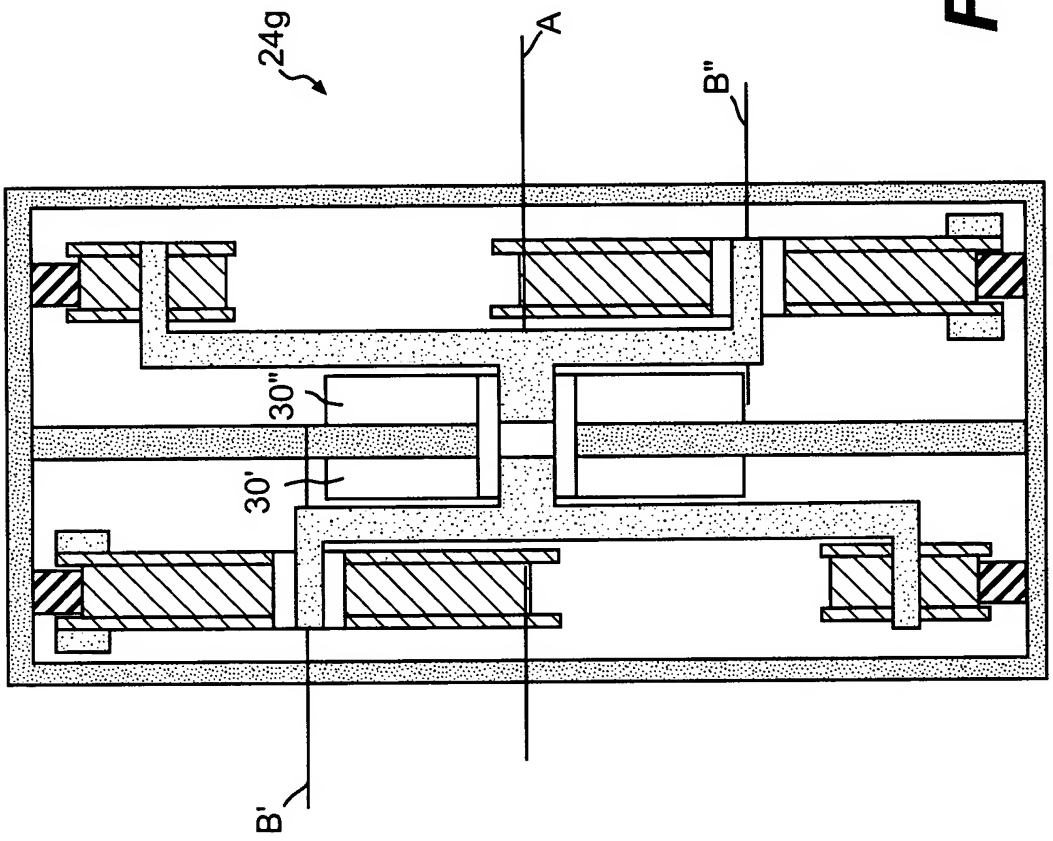


FIG. 12